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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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HOFFMANN & BARON, LLP
6900 JERICHO TURNPIKE
SYOSSET, NY 11791

EXAMINER

MOHANDESI, IRAJ A

ART UNIT PAPER NUMBER

2834

DATE MAILED: 01/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/808,591

Applicant(s)

HARTRAMPH, RALF

Examiner

Iraj A Mohandesi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11 is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claim 7 has been amended and there is sufficient antecedent bases for the limitation "cylindrically wound" the rejection under U.S.C. 112 has been withdrawn.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7, 9, 10 are rejected under 35 U.S.C. 102(b) as being anticipated by

Kazuya JP 11257364.

Kazuya JP 11257364. discloses a direct electrodynamic linear drive comprising, a drive coil system composed of coil arranged in a row alongside each other (20, Fig. 2) on an elongated ferromagnetic core (111, Fig. 2), which inherently coil system is able to be supplied with a switched exciting voltage, a ferromagnetic tube fitting around the drive coil system (120, Fig. 2, 3) a plurality of permanent magnets (120- 23, Fig. 2), being arranged on the inner side of the said tube (122, Fig. 2) in a row alongside each other in the longitudinal direction of the tube (Fig. 2.) , the core being provided with drive coil system and designed as a stator and the tube provided with the permanent magnet being designed as an armature (Fig. 2, 3), the tube arranged in a sliding manner in a

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longitudinal duct in a housing, the drive coil system extending into such longitudinal duct (Fig.1,2), the radially magnetized permanent magnets fit around the drive coil system (20 Fig. 2), the tube and permanent magnets have a round cross section (Fig. 3), the housing has integrated in it an electric power system for electrically supplying the drive coil system (Fig. 2 the coil winding 20 has electric system), the cylindrically wound drive coil system has more strands of winding(21,22 Fig. 2 each coil winding consist of more strands) , an mechanical commutating means for the coil in accordance with their respective armature and the drive coil system has a plurality of strands (Fig. 2 the stator coil is in communication electrically "electromagnetic force" and mechanically "linear motion" with core).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 8,10 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kazuya JP 11257364**. and in view of **Ono US patent 6,160,338**.

Kazuya JP 11257364. discloses a direct electrodynamic linear drive comprising, a drive coil system composed of coil arranged in a row alongside each other (20, Fig.2) on an elongated ferromagnetic core (111, Fig. 2), which inherently coil system is able to be supplied with a switched exiting voltage , a ferromagnetic tube fitting around the drive

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coil system (120, Fig. 2,3) a plurality of permanent magnets (120- 23, Fig. 2), being arranged on the inner side of the said tube (122, Fig. 2) in a row alongside each other in the longitudinal direction of the tube (Fig. 2.) , the core being provided with drive coil system and designed as a stator and the tube provided with the permanent magnet being designed as an armature (Fig. 2,3), the tube arranged in a sliding manner in a longitudinal duct in a housing, the drive coil system extending into such longitudinal duct (Fig. 1,2), the radially magnetized permanent magnets fit around the drive coil system (20 Fig. 2), the tube and permanent magnets have a round cross section (Fig. 3), the housing has integrated in it an electric power system for electrically supplying the drive coil system (Fig. 2 the coil winding 20 has electric system), the cylindrically wound drive coil system has more strands of winding (21,22 Fig. 2 each coil winding consist of more strands) , an mechanical commutating means for the coil in accordance with their respective armature and the drive coil system has a plurality of strands (Fig. 2 the stator coil is in communication electrically "electromagnetic force" and mechanically "linear motion" with core).

However **Kazuya JP 11257364** fails to teach a liner electrodynamic drive comprising a displacement measuring system integrated in the housing.

Ono'338 discloses a liner electrodynamic drive comprising a displacement measuring system integrated in the housing (column 5, line 27-29).

Therefore it would have been obvious to one having skill in the art at the time the invention was made to combine **Kazuya JP 11257364** linear motor with a measuring

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means was taught by **Ono'338** for the purpose of determining the distance and measuring the displacement of the moving part.

With regard to the claim 8.

Kazuya JP 11257364 disclose the claimed invention except for the width of a coil of the drive coil system is equal to the width of a permanent magnet divided by the number of coil strand .

It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the for the width of a coil of the drive coil system equal to the width of a permanent magnet divided by the number of coil strand , since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Response to Arguments

3. Applicant's arguments filed 12/02/2002 have been fully considered but they are not persuasive.

Ono US patent 6,160,338 discloses a displacement measuring system witch teaches a the limitation of claim 10.

There in is no detail description of functioning mechanism in the claim10, therefore **Kazuya JP 11257364** linear drive can be inherently modified by the measuring device taught by **Ono US patent 6,160,338** .

Allowable Subject Matter

The following is an examiner's statement of reasons for claim 11 allowance:

The prior art of the record fails to teach an electrodynamic direct linear drive comprising a drive coil system comprising coils arranged in a row alongside each other on an elongated ferromagnetic core, which coil system is able to be supplied with a switched exciting voltage, a permanent magnet arrangement designed in the form of an armature and comprise of a plurality of permanent magnets placed alongside one another in a longitudinal direction, such arrangement being able to be slid in relation to a winding system, the drive coil system also being a component of a displacement measuring system for the armature, which has the drive coil system located in circuit as a differential choke system since regions having different iron saturation in the core, such saturation being due to permanent magnets of the armature, cause changes in inductance and owing to the motion of the armature are correspondingly shifted and wherein a processing and evaluating means is provided for ascertaining the inductance variations of the inductance parts of the differential choke system and from this the position of the armature.


Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Communication

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Iraj A Mohandesi whose telephone number is (703)305-3242. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 703-308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9314 for regular communications and (703)872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)306-0377.


NESTOR RAMIREZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

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December 26, 2002